CHAPTER 3 STUDY GUIDE

Name:

Write f(x) in the form $f(x)=ax^2+bx+c$ and identify the leading coefficient.

1) $f(x)= 2(x-1)^2 +10$

2) $f(x)=1/2(x+4)^2-5$

3) $f(x)= -3(x+5)^2+1$

4) $f(x)= -3/2(x-2)^2+4$

Write f(x) in the form $f(x)=a(x-h)^2+k$ and identify the vertex.

5) $f(x)=x^2+4x-5$

6) $f(x)=1/3x^2+x+1$

7) $f(x)=2x^2-8x-1$

8) $f(x)=3x^2+6x+2$

Find the vertex of each:

9) $f(x)= x^2-12x+32$

10) $f(x)= 2x^2+10x+8$

Solve the following using a method of your choice.. Show your work.

11) $3x^2-10x+2=0$

12) $4x^2-12x+1=0$

13) $12x^2+10x-4=0$

14) $x^2-2x=10$

15) $x^2-8x=2$

16) $x^2-6x=7$

Use the discriminant to find out how many real solutions each equation has.
17) $x^2-10x+20=0$

18) $5x^2-3x+1=0$

19) $7x^2+11x-1=0$

Solve the inequality. Write each solution set.
20) $x^2-10x-24<0$

21) $4\ x^2-12x+5>0$

Use the graph to sketch a graph of each item listed below. Please also write the equation for item below. They do not have to be simplified.
22) f(x)+1

23) f(x-1)

24) f(2x)-1

25) –f(x)